

Catch Basin Inspection, Cleaning and Maintenance

Catch basins help minimize flooding and protect water quality by removing trash, sediment, decaying debris, and other solids from stormwater runoff. Catch basin cleaning reduces foul odors, prevents clogs in the storm drain system, and reduces the loading of suspected solids, nutrients, and bacteria to receiving waters.

Somerville Standard Operating Procedures

The City of Somerville has the following Standard Operating Procedures to reduce the influx of pollutants to the stormwater drainage system to the maximum extent practicable.

- Target cleaning for early spring
- Clean manually or with equipment (i.e., clamshell or vactor truck).
- Properly dewater and dispose of catch basin material or store until contractor picks up cleanings (see “management of catch Basin Cleanings”).
- Repair damaged catch basins including frames and grates.
- Install hoods if catch basins do not have them.
- Inform employees that catch basins are part of the stormwater drainage system and not the sanitary sewer system.
- The sewer department will maintain an inventory of cleaning activities. Information should at a minimum include amount of cleanings removed and areas with heavily filled basins.
- The sewer department will maintain a log of cleaning activities on their parking lots. Information should include date cleaning activities, staff/contractor that performs activities, number of basins cleaned, illicit connection/odor issues, repair issues, or heavily filled catch basins.
- Report any illicit (illegal) discharges to the Board of Health. Report oil spills immediately to the Fire Department and Board of Health

Required Inspection & Cleaning Frequency

- Prioritize inspection and maintenance for catch basins located near construction activities (roadway construction, residential, commercial or industrial development or redevelopment). Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
- Establish a schedule with a goal that the frequency of routine cleaning will ensure that no catch basin at any time will be more than 50 percent full.
- Inspections are completed during routine cleaning, as part of reconstruction contracts, and through requests made by residents or other City departments.

Reporting

- Report any repair or maintenance problem to the Water and Sewer Director. Repair problems may include frame and grate replacement.
- Keep a log of catch basins cleaned or inspected. (see form attached)
- Document the City's plan for optimizing catch basin cleaning, inspection plans, or its schedule for gathering information to develop the optimization plan in the SWMP and the first annual report. Documentation is required to include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for MS4.
- Report in each annual report the total number of catch basins, number inspected, number cleaned, and the total volume or mass material removed from all catch basins.
- If a sump is more than 50 percent full (*i.e. a catch basin sump is more than 50 percent full if the contents within the sump exceed one half (1/2) the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin*) during two (2) consecutive routine inspections/cleaning events, the City must document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, abate contributing sources. Somerville is required by EPA to describe any actions taken in its annual report.

Management of Catch Basin Cleanings

Catch basin cleanings – solid materials such as leaves, sand and twigs removed from storm water collections systems during cleaning operations – are typically classified as a solid waste by the Department of Environmental Protection (MassDEP). Catch basin cleanings must be handled and disposed in accordance with the agency's applicable regulations, policies and guidance.

Handling and Disposal

Except as explained below, catch basin cleanings from storm water only drainage systems may be disposed and any landfill that is permitted by MassDEP to accept solid waste. Mass DEP does not routinely require storm water only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means. Contaminated catch basin cleanings must be evaluated in accordance with the hazardous Waste Regulations, 310 CMR 30.000, and handled as Hazardous Waste if appropriate. Systems that collect storm water run-off into sanitary sewers are called "combined" sewers. MassDEP may require cleanings from combined sewer catch basins to be tested before disposal.

Landfill Restrictions

The MassDEP 310 CMR 19.000: Solid Waste Management Facility regulations (specifically see Section 19.13097)) prohibit Massachusetts landfills from accepting materials that contain free draining liquids.

When there is no free water in a truck used to transport catch basin cleanings, the agency will be satisfied that the material is sufficiently dry. Otherwise, the material will need to undergo a Paint Filter Liquids Test. One way to remove liquids is to use a hydraulic lift truck during catch basin cleaning operations so that the material can be decanted at the site. After material from several catch basins along the same system is loaded, the truck may be elevated so that any free draining liquid is allowed to flow back into the draining structure. MassDEP may approve catch basin cleanings for use as a grading and shaping material at landfills undergoing closure (see the agency's Revised Guidelines for Determining Closure Activities at Inactive Unlined Landfill Sites for additional information). Catch basin cleanings may be used as daily cover or grading material at active landfills only when specific MassDEP approval of the proposed use.

Consult with the Solid Waste Section Chief in the appropriate MassDEP Regional Office for information about applying for an approval and/or a Beneficial Use Determination (see section 19.060 of the 310 CMR 19.000: Solid Waste Management Facility Regulations) for other uses, including non-landfill uses.

Physical Inspection and Cleaning Procedure

Cleaning Procedure: Catch basin inspection cleaning procedures will address both the grate opening and the basin's sump; any and all observations about the condition of the catch basin structure and water quality will be documented on the Catch Basin Inspection Form (attached).

Catch basin inspection and cleaning procedures include the following:

1. Work upstream to downstream.
2. Clean sediment and trash off grate.
3. Visually inspect the outside of the grate.
4. Visually inspect the inside of the catch basin to determine cleaning needs.
5. Inspect catch basin for structural integrity.
6. Determine the most appropriate equipment and method for cleaning each catch basin.
 - a. Manually use a shovel to remove accumulated sediments, or
 - b. Use a bucket loader to remove accumulated sediments, or
 - c. Use a high pressure washer to clean any remaining material out of catch basin while capturing the slurry with a vacuum.
 - d. If necessary, after the catch basin is cleaned, use the rodder of the vacuum truck to clean downstream pipe and pull back sediment that might have entered downstream pipe.

7. If contamination is suspected, chemical analysis will be required to determine if the materials comply with the MassDEP hazardous waste rules. Chemical analysis required will depend on suspected contaminants. Note the identification number of the catch basin on the sample label, and note sample collection on the Catch Basin Inspection Form.

8. Properly dispose of collected sediments.

9. If fluids collected during catch basin cleaning are not being handled and disposed of by a third party, dispose of these fluids to a sanitary sewer system, with permission of the system operator.

10. If illicit discharges are observed or suspected, notify the W&S Director and BOH determine if MassDEP should be notified.

11. At the end of each day, document location and number of catch basins cleaned, amount of waste collected, and disposal method for all screenings.

12. Report additional maintenance or repair needs to the appropriate Department.

Disposal of Screenings Catch basin cleanings from storm water-only drainage systems may be disposed at any landfill that is permitted by MassDEP to accept solid waste. MassDEP does not routinely require stormwater-only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means. Screenings may need to be placed in a drying bed to allow water to evaporate before proper disposal. In this case, ensure that the screenings are managed to prevent pollution.